

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Reqstd: 06/07/2007

Time Report Reqstd: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

C Number: C60968B

Lock Date: 06/01/1994

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

TDMSE Version: 1.7.0

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

		DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		4	2	5	6	5	6	5	7	7	7	7	6	7	7	6	7	6	7	6	4	5	7	6
		8	5	5	4	2	5	7	0	3	3	3	0	3	3	6	0	7	2	8	3	8	3	0
		2	9	6	2	3	1	4	6	3	3	3	8	3	3	3	6	8	0	5	3	0	3	8
FISCHER 344 RATS MALE			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CONTROL		ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2
Bone Marrow			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node																								
Lymph Node, Bronchial			+																					
Lymph Node, Mandibular Hyperplasia, Lymphoid			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node, Mediastinal Hemorrhage			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node, Mesenteric Hyperplasia, Lymphoid																								
Spleen			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Accessory Spleen																								
Fibrosis																								
Hemorrhage																								
Thymus			3	4																				

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

14. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

x .. lesion present
| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

URINARY SYSTEM

Kidney
Nephropathy, Chronic
Pelvis, Transitional Epithelium, Hyperplasia

Urinary Bladder
Calculus Micro Observation Only
Inflammation, Suppurative
Transitional Epithelium, Hyperplasia

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ENDOCRINE SYSTEM

GENERAL BODY SYSTEM

Peritoneum + + 2

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ Tissue examined microscopically

x Lesion present

.. Lesion present
 Insufficient tissue

M Missing tissue

A Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 Lesion qualified as:

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	6	7	4	6	6	6	6	6	5	7	6	7	4	7	5	6	7	7	7	7	7	6	7	6	7	6	7	6	
	4	7	3	2	9	1	7	9	8	9	6	3	0	0	6	3	7	4	8	3	2	3	6	3	6	3	6	3	6	
	7	8	3	1	2	4	8	8	1	5	6	3	4	5	5	3	9	9	7	3	9	3	3	3	3	3	3	3	4	
	
FISCHER 344 RATS MALE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5
	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	*	TOTALS			

GENITAL SYSTEM

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified a

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye	+	4
Cataract		3 3.0
Cornea, Mineralization	3	1 3.0
Lens, Mineralization		1 4.0
.....		
Lacrimal Gland		1
.....		
Zymbal's Gland	+	2

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4 ... Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

URINARY SYSTEM

Kidney
Nephropathy, Chronic
Pelvis, Transitional Epithelium, Hyperplasia

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
4	1	3		2	1	3	3	4	3	2	3	1	4	3	4	3	2	3	2	3	2	1	47 2.7
																						1	

Urinary Bladder
Calculus Micro Observation Only
Inflammation, Suppurative
Transitional Epithelium, Hyperplasia

2

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M.. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

**males
(cont...)**

Brain

500 PPM

Brain

Hemorrhage

Ventricle, Hydrocephalus

Spinal Cord

RESPIRATORY SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

± .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* .. Total animals with tissue examined microscopically: Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

ENDOCRINE SYSTEM

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Lesion present
| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

± .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Thymus

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

Bone + + + + + + + + + A + 48
 Cranium, Fibrosis 3 1 3.0
 Cranium, Inflammation, Granulomatous 4 3 2 3.5

Skeletal Muscle 1

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

RESPIRATORY SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M.. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4: Less qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Artery, Necrosis, Fibrinoid

Cortex, Cyst

Renal Tubule, Hyperplasia, Atypical

4

**males
(cont...)**

Urinary Bladder

Calculus Micro Observation Only

Hemorrhage

2

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified a

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Registered: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M., Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

+ .. Lessor qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

Bone Marrow Hyperplasia, Reticulum Cell	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1	4.0
Lymph Node								+														6		
Lymph Node, Bronchial Fibrosis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	1	3.0
Lymph Node, Mandibular	+	+	+	+	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	+	M	+	+	44
Lymph Node, Mediastinal Fibrosis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1	2.0
Lymph Node, Mesenteric Fibrosis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1	2.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

1-4: Ejection qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

NERVOUS SYSTEM

Spinal Cord

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hemorrhage	1									1		2											8 1.8
Inflammation, Granulomatous																							1 4.0
Alveolar Epithelium, Foreign Body																							1
Alveolar Epithelium, Hyperplasia																	2						4 1.5
Alveolar Epithelium, Infiltration Cellular, Histiocyte																	1						8 2.1
Alveolar Epithelium, Pigmentation																	1						1 4.0

Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Cyst			2		1													1		7 1.3
Foreign Body	X																	X		4

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye	+	+	+			5
Cataract		4		+		2 3.5
Lens, Cataract					3	1 3.0
<hr/>						
Harderian Gland			+			1
Hyperplasia			3			1 3.0
<hr/>						
Zymbal's Gland				+		1

URINARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Lesion present
| .. Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

Peritoneum

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A.. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

**males
(cont...)**

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Essien present
I .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye
Cataract
Cornea, Lens, Mineralization

Zymbal's Gland

URINARY SYSTEM

Kidney
Nephropathy, Chronic
Cortex, Necrosis
Renal Tubule, Hyperplasia
Renal Tubule, Mineralization

Urinary Bladder
Hemorrhage

4

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

† .. Tissue examined microscopically

x ... Lesion present

X .. Lesion present
| .. Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

M .. Missing tissue
A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ENDOCRINE SYSTEM

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Total animals with tissue examined

x ... Lesion present

X .. Lesion present
| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

Peritoneum + 1

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M.. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

Spinal Cord Hemorrhage 1 1 4.0

RESPIRATORY SYSTEM

* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x .. Lesion present

X .. Essien present
| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye + 3
Cataract 4 3 4.0
Cornea, Lens, Mineralization X 1

Zymbal's Gland + 1

URINARY SYSTEM

*** END OF MALE DATA ***

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Essien present
| .. Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as

1-4: Less qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye + +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Lens, Cataract

3

URINARY SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

+ .. Tissue examined microscopically

x .. Lesion present

.. Lesion present
 Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 Lesion qualified as

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Epithelium, Hyperplasia

1 4.0

Tooth Developmental Malformation

1

CARDIOVASCULAR SYSTEM

ENDOCRINE SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

± .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as:

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

Peritoneum + 1

GENITAL SYSTEM

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

M: Missing teeth

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified a

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	7	6	7	7	7	7	7	7	6	7	5	7	7	7	0	6	5	6	7	5	7	7	6	7	6	7	6	7	7
	2	3	8	3	3	3	3	3	3	7	3	4	3	3	3	5	9	8	2	3	6	3	2	1	3	2	1	3	2	1
	8	4	7	4	4	4	5	4	5	8	5	7	5	4	4	6	2	0	5	4	1	4	5	6	4	5	6	4	5	6
																													
FISCHER 344 RATS FEMALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CONTROL		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	5
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS			

SPECIAL SENSES SYSTEM

Eye + 3

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Essien present
I .. Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

Tissue NOS

GENITAL SYSTEM

**Clitoral Gland
Cyst**

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Respiratory Epithelium, Metaplasia, Squamous

2

Pleura

Trachea

SPECIAL SENSES SYSTEM

Eye
Cornea, Mineralization
Lens, Cataract

URINARY SYSTEM

Kidney
Nephropathy, Chronic
Renal Tubule, Mineralization

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A - Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

ENDOCRINE SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENERAL BODY SYSTEM

Tissue NOS

+

GENITAL SYSTEM

Clitoral Gland Cyst

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Essien present
I .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

.. Lesion qualified as:

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A.. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

Mammary Gland Epithelium, Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1	3.0
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Hyperkeratosis																						4	4	3.0
Inflammation, Suppurative																						1	1	2.0
Ulcer																						3	3	3.3
Epidermis, Cyst																						2	2	3.5
																						3	4	

MUSCULOSKELETAL SYSTEM

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cranium, Fracture																						1 4.0
Cranium, Femur, Osteopetrosis																						1 4.0
Maxilla, Fracture																						1
															X							

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M., Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* ... Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye + 2
Cornea, Mineralization 1 2.0
Lens, Cataract 1 3.0

URINARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ENDOCRINE SYSTEM

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

X .. Eosin present
I .. Insufficient tissue

M .. Missing tissue

A.. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Tissue NOS

•

GENITAL SYSTEM

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

x .. Lesion present
| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

1-4: Ejection qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 Lesion qualified as

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M., Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ENDOCRINE SYSTEM

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

X .. Essien present
I .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

GENITAL SYSTEM

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

.. Lesion present
 Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as:

.. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

Eye + 1
Lens, Cataract 3 1 3.0

URINARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

.. Eczema qualified as:

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Eye Lens, Cataract

URINARY SYSTEM

* .. Total animals with tissue examined microscopically: Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

.. Lesion present
 Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as

+ .. Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

ALIMENTARY SYSTEM

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade.

† .. Tissue examined microscopically

x ... Lesion present

X .. Lesion present
| .. Insufficient tissue

M Missing tissue

A - Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 Lesion qualified as:

1-4: Lesion qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Registered: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

CARDIOVASCULAR SYSTEM

ENDOCRINE SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Adrenal Cortex Vacuolization Cytoplasmic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
		2				1	2		1										3	2	4
Adrenal Medulla	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Parathyroid Gland	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	49	
Pituitary Gland Cyst	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Pars Distalis, Hyperplasia	3	2								3	+	+	+	+	+	+	+	+	+	11 2.7	
		3									2									5 2.4	
Thyroid Gland C-cell, Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
			3								1		3							6 2.0	

GENERAL BODY SYSTEM

Tissue NOS + 1

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A.. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymph Node	+	+															+	+	+	+	5	
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	M	+	M	+	+	+	+	+	M	+	46
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Fibrosis																			3			
Hematopoietic Cell Proliferation																			4	3.0		
																			4	1	4.0	

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x ... Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK Not examined microscopically

1-4 .. Lesion qualified as

1-4: Less qualified as:

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

INTEGUMENTARY SYSTEM

MUSCULOSKELETAL SYSTEM

NERVOUS SYSTEM

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

X .. Essien present
I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

SPECIAL SENSES SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

X .. Essien present
| .. Insufficient tissue

M.. Missing tissue

A .. Autolysis precludes evaluation

BLANK - Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

1) Minimal 3) Moderate
2) Mild 4) Marked

TDMS No. 60968 - 01

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ISOBUTYRALDEHYDE

CAS Number: 78-84-2

Date Report Requested: 06/07/2007

Time Report Requested: 11:43:39

First Dose M/F: 08/16/90 / 08/16/90

Lab: BNW

Eye Lens, Cataract

1

1 3.0

URINARY SYSTEM

*** END OF REPORT ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

M .. Missing tissue

A.. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked